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# The Impact of Artificial Intelligence in Banking Sector

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**ABSTRACT:** This paper explains the holistic review of the impact of Artificial Intelligence in the banking sector and demonstrating the utilization of Artificial Intelligence in banking sectors with key areas of research. By leveraging Artificial Intelligence applications that reduce the factors like risks (Liquidity and lending). The banking sector is one of the business sectors that over the years have embraced the use of artificial intelligence and especially through automation to improve their service delivery and banking operations. The banking sector is one of the business sectors globally where artificial intelligence has significantly been applied. Most often, the banking sector has applied artificial intelligence to improve customer experience, detect fraud and especially due to increased cyber-related crimes, analyse customer creditworthiness and behaviour, track customer behaviour, and predict risks.

**KEYWORDS:** Artificial Intelligence, Banking Sector, Finance, Machine Learning, Cyber Fraud, Innovation.

## I. INTRODUCTION

The rapid technological growth has led to massive digital innovations, which have been used to transform service delivery in different business sectors. The use of digital innovations has become inevitable in the modern business world and most businesses have shifted to the use of these technologies to improve their service delivery and to keep up with the changing dynamics and especially competition in a modern business environment (Ryman-Tubb et al., 2018). The development of artificial intelligence (AI) technology has led to the use of machines to simulate human intelligence in a manner that machines are capable of doing most of the tasks that would be done through human labor. The banking sector is one of the business sectors that over the years have embraced the use of artificial intelligence and especially through automation to improve their service delivery and banking operations (Mhlanga, 2020). There are many banking services that have applied AI technology such as the ATM services, online and mobile banking services. This study examines the impact of artificial intelligence in the banking sector.

## II. HOW AI IMPACT ON BANKING

Artificial intelligence in most parts of the world is considered to be a new disruptive force or technology in the modern business world (Fares et al., 2022). However, its origin can be traced back to the time symbolic system, which was used by Greek philosophers to describe human thinking. In 1956, it is when the term Artificial Intelligence (AI) was however officially established or introduced during a conference that was taking place at Dartmouth College (Haenlein, & Kaplan, 2019). The banking sector is one of the business sectors globally where artificial intelligence has significantly been applied. Most often, the banking sector has applied artificial intelligence to improve customer experience, detect fraud and especially due to increased cyber-related crimes, analyse customer creditworthiness and behavior, track customer behavior, and predict risks.

## III. RISK MANAGEMENT

Risk management in the banking sector has become a major challenge to managers in the banking sector. With increased technology and digital innovations, many banks have adopted digital technologies to improve customer experience (Aziz & Dowling, 2019). Cybercrimes have significantly increased and especially with the increased use of the internet. Banks are facing increased risks, which have a significant negative impact on their growth. Banks and other financial institutions have been able to employ artificial intelligence-powered solutions to analyze customer data and behavior, which enables them to make appropriate decisions and reduce risks that would be associated with a lack of such information (Prentice et al., 2020). Due to the availability of customer information on the internet, and cybercrimes, it has increasingly become possible for hackers to hack different



customer information and use it to commit final fraud in banks (Fares et al., 2022). However, with artificial intelligence, banks have been able to analyze customer behavior such as credit behavior, and therefore help them improve their credit decisions as most of the risks arise from poor credit decisions, which expose banks to long-term losses from customers who default on their credits (Leo, Sharma, & Maddulety, 2019). The AI-powered solutions used by banks allow them to predict and prevent credit risks by identifying fraudulent activities as well as identifying individuals who might default on their debt obligations.

#### IV. CUSTOMER EXPERIENCE

Customer experience in the modern business world is what sustains businesses in a competitive marketplace. The ability to understand your client's needs and their behavior is what prompts businesses to offer customer-centered services (Fares et al., 2022). With rapid technological growth, banks have shifted to the use of digital technologies to improve service delivery to customers (Johnson, Pasquale, & Chapman, 2019). Competition in financial services is very high and one of how banks retain their customers or develop customer loyalty is by improving their customer experiences. Artificial intelligence has contributed significantly towards improving customer experience in the banking sector, which translates to improved customer satisfaction and loyalty. Customers do not need to visit banks to apply for credit services as these services and processes have been made easy through the application of AI-powered solutions (Fares et al., 2022).

#### V. CYBER SECURITY

Improving the security of banking systems has become a major concern for bank managers with the rapid increase in cybercrimes (Leo et al., 2019). This has significantly contributed to increased risk management challenges in the banking sector. The development and use of Artificial intelligence digital innovations such as the AI model called “The Black Forest” have played a crucial role in combating final crime in the banking sector. The Black Forest AI Model provides an effective framework for managers in the banking sector to analyze records and customer transactions for suspicious activities and especially online transactions (Alhayani et al., 2021). The model has also been used to identify money laundering and tax evasion cases that expose banks to significant legal and final risks.

On the other hand, the use of AI in the banking sector has created a significant challenge for employment and human capital. Automation of banking services through the use of AI-powered solutions has reduced the number of human capital or labor requirements in the banking sector (Alhayani et al., 2021). While the use of machines has improved the productivity rate of many banks given that a machine helps improve productivity and save cost can do the work done by many bank officers, it reduces the human aspect of service delivery where customers have more in-depth relationships with the human capital as compared to machines (Fares et al., 2022). However, it is not clear that AI is capable of replacing human capital given the role of human capital in critical decision-making and functioning of business enterprises as compared to machine power.

#### VI. CONCLUSION

Overall, based on the above analysis, it is evident that artificial intelligence as a disruptive technology has a significant potential impact on current and future business activities not only in the banking sector but also in much another business sectors. In this case, the application of AI in the banking sector has played a crucial role in helping banking institutions to improve their risk management activities and decision-making. Different AI-powered solutions have been developed over the years and have been applied to improve risk management practices in the banking sector and especially risks related to credit. The use of AI has helped banking institutions to improve customer experience by responding effectively to the changing customer tastes and preferences in service delivery. Most importantly, AI has played a crucial role in improving the security of banking systems through the detection of fraud and suspicious online transactions, and other financial crimes. Conversely, the study has also established that the use of AI technologies in the banking sector has had a negative impact on employment and human capital.



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